

We claim:

- Sub A1
1. A cardiac assist device comprising means for connecting said cardiac assist device to a heart, means for furnishing electrical impulses from said cardiac assist device to said heart, means for ceasing the furnishing of said electrical impulses to said heart, means for receiving pulsed radio frequency fields, means for transmitting and receiving optical signals, and means for protecting said heart and said cardiac assist device from currents induced by said pulsed radio frequency fields, wherein said cardiac assist device contains a control circuit comprised of a parallel resonant frequency circuit and means for activating said parallel resonant frequency circuit.
  2. The cardiac assist device as recited in claim 1, wherein said means for activating said parallel resonant circuit comprise optical means.
  3. The cardiac assist device as recited in claim 2, wherein said optical means for activating said parallel resonant circuit comprises an optical switch.
  4. The cardiac assist device as recited in claim 3, wherein said optical switch comprises a pin type photodiode.
  5. The cardiac assist device as recited in claim 4, further comprising an optical fiber connected to said optical switch.
  6. The cardiac assist device as recited in claim 3, wherein said optical switch is activated by light from a light source.
  7. The cardiac assist device as recited in claim 6, wherein said optical switch is disposed within a biological organism.
  8. The cardiac assist device as recited in claim 7, wherein said light source is disposed outside of said biological organism.
- Sub A1

9. The cardiac assist device as recited in claim 7, wherein said light source is disposed within said biological organism.

10. The cardiac assist device as recited in claim 8, wherein said light source provides light with a wavelength of from about 750 to about 850 nanometers.

11. The cardiac assist device as recited in claim 1, wherein said cardiac assist device is a pacemaker.

12. The cardiac assist device as recited in claim 1, wherein said pulsed radio frequency fields are received from a magnetic resonance imager.

13. The cardiac assist device as recited in claim 1, further comprising means for varying the quality factor of said parallel resonant circuit.

14. The cardiac assist device as recited in claim 13, wherein said means for varying the quality of said parallel resonant circuit is a variable resistor.

add  
A1

100106-10001  
100106-10001